IMPERIAL MYCOLOGICAL INSTITUTE
16 AUG. 1944

PRICE: 75 Cents

ZANZIBAR PROTECTORATE

ANNUAL REPORT

on the

DEPARTMENT OF AGRICULTURE

for the year ended 31st December, 1943.

SECTION I.

AGRICULTURE IN THE PROTECTORATE.

GENERAL.

The general policy of the Department remained unchanged, but the war-time requirements of the Protectorate necessitated that the main actitivties of the Department should be concentrated upon the production of the maximum quantity of food crops. Towards this end the registration of adult males was continued and completed in co-ordination with the issue of food ration cards to ensure, so far as was possible, that those persons who were capable of producing local foods did not require to be supplied with imported foodstuffs.

THE WEATHER.

The rainfall of the year was below average, but was somewhat higher than that of the previous year in the non-clove areas of the east coast of both islands. The main rains were fully a month earlier than normal, beginning in mid-February, and from then until July rain was adequate and well distributed. August and September were, on the whole, dry months and the 'vuli' rains of October to December were either totally lacking or seriously deficient.

THE PRINCIPAL CROPS.

Cloves.—The exports of the calendar year were some 7,000 tons, a marked reduction on those of the four previous years.

Buying prices in respect of the seasonal year—1st July, 1943 to 30th June, 1944—were declared by the Clove Growers Association, the price of Fair Quality cloves for the period being shillings 42.00 per 100 lbs. delivered at the Association's depot in Zanzibar. The guaranteed price was shillings 39.00 per 100 lbs. in the previous seasonal year. The buying price of Commercial Quality clove stems was shillings 10.00 per 100 lbs. compared with shillings 9.00 in the previous seasonal year.

The crop of the season was a heavy one, the picking of which extended over some five months in Pemba and six months in Zanzibar. 10,500 tons came on to the market during the calendar year 1943 and the final figure for the season's crop is estimated to be some 15,000 tons. The quality of cloves was variable and, on the whole, lacking in brightness. Stem showed evidence of increased attention to cleaning and drying.

The recruitment and organisation of the labour force required to harvest this crop was greatly facilitated by the fact that labourers held registration cards, and a supply of grains and pulses for the feeding of contracted labour was imported by the Government and made available to plantation owners through the Clove Growers Association. As a result of these factors harvesting proceeded in a reasonably orderly fashion. Harvesting costs were higher than they have been in recent years due, in part, to the increased demands of labour for wage increases based on increased costs of living and, in part, to competition amongst plantation owners to secure labour. Harvesting of green cloves cost approximately 18 cents per pishi—a volume measure equivalent to approximately 4 lbs. in weight—on the Government Plantations, and on private plantations somewhat more. In some cases individuals divided the crop, in various shares, with their harvesting labour.

The effects of drought and of high temperatures were markedly severe on old trees and on seedlings, casualties amongst trees planted in the period 1875-1895 being most marked. It is becoming increasingly apparent that this generation of trees is in the process of dying out, although many plantation owners are reluctant to believe this. Interplanting between the lines of the old trees is recommended, and it is advised that such interplanting should be undertaken in advance of the death of the old trees in order that the young trees may be brought towards the bearing age while some revenue is still being obtained from the survivors of the older plantings.

Coconuts.—The copra production of the Protectorate, surplus to the requirements of East Africa, was sold to the Ministry of Food at the same prices as those which ruled in the latter part of 1943, namely £16.10.0d. per ton f.o.b. for f.m.s. copra and £16.0.0d per ton for f.m. There was some falling off in copra production during the peak periods of clove harvesting, but it was again in full swing by the end of the year. Of the copra produced for export fully two-thirds were derived from Zanzibar and the balance from Pemba. The cost of cultivation, harvesting charges, copra making expenses and transport rates all advanced in the course of the year. The sale price of matured coconuts on the Government plantations averaged shillings 35 cents 23 per thousand compared with shillings 42 cents 24 per thousand in 1942. The reduction in nut prices is related to increased copra making and marketing costs.

The average price obtained for copra produced on the Government plantations was shillings 13 cents 12 per 100 lbs. or shillings 4 cents 59 per frasila contrasted with shillings 13 cents 54 and shillings 4 cents 74 respectively in 1942. These prices are somewhat higher than those normally obtained by other local producers. In Pemba average quality copra was sold at some shillings 3 cents 25 per frasila and best quality at shillings 3 cents 50.

FOOD CROP PRODUCTION.

The year's work on food production was a success qualified only by the drought of the late part of the period.

In the early months of the year the registration of cultivators in each Shehia—the smallest administrative unit—was completed both in Zanzibar and Pemba, and out of a total of 60,000 registered males some 44,000 were registered in the rice growing areas.

Propaganda was carried out once more by the Administration and the Department of Agriculture and the work was increasingly systematised, planting or cultivation orders following upon propaganda carried out in advance in the field.

The bulk of the Zanzibar 1943 rice crop had been planted by the end of 1942 and the Pemba crop by the end of January, 1943.

With the onset of the first of the main rains an Order was made to enforce, generally, the planting of a specified acreage of sweet potatoes by every registered adult male in Zanzibar, and a similar order was made in Pemba. In the latter District the object of this order, which applied to a smaller area than that specified in Zanzibar, was to ensure that a sufficient supply of planting material was available, later in the season, to enable a further extension of sweet potato cultivation to take place.

Thereafter, an Order, making it compulsory to plant a specified acreage of cassava was issued in June followed by a further Order to plant up rice stubbles with pulses in July.

The pulse planting campaign was only a partial success, many of the cultivators proceeding to the clove harvest as soon as they had harvested their rice. In those areas, however, where the rice lands were cropped with pulses, good crops were obtained, and cultivators working their land for the rice crop of 1944 have noticed a welcome reduction in the amount of clearing and weeding in those plots on which a pulse crop was grown immediately after the rice crop of 1943. Orders for the preparation of land for rice growing in 1944 were issued with a final date of 31st December, 1943, and 10th February, 1944, in Zanzibar and Pemba respectively.

In the course of the rice harvest a comprehensive survey of yields was undertaken in Zanzibar and a more limited series of samples was taken from cultivators' plots in Pemba. The average yield of paddy in Zanzibar, in the year under review, was 1,499 lbs. per acre, and in Pemba 1,363 lbs. Rice trials have been conducted at the Experiment Station for a number of years and the yields of the present season were below the average. The survey revealed that the average yield per acre of rice on native plots was lower than that on the Experiment Station, and, discounting the adverse effects of a poor season, was less than had formerly been assumed.

Large supplies of planting materials of cassava and sweet potatoes were issued to cultivators and sales of considerable quantities of paddy, millets, cowpeas and gram were also effected.

In the neighbourhood of Zanzibar town a number of allotments were made available to amateur vegetable growers of the town and, with the aid of some technical advice and adequate supplies of compost prepared on the site, good results were obtained in the months of May to October when growers obtained satisfactory crops of cabbages, cauliflowers, carrots, beet, radish, tomatoes, beans, peas and lettuce. In the drier weather from October onwards supplies of Jerusalem artichokes, leeks, a small white haricot bean, cluster beans and lettuce were grown successfully.

DOMESTIC EXPORTS.

The total value of domestic exports was £826,625 compared with £1,148,103 in the previous year. Of the minor crops, some 15 tons of chillies were exported during the period compared with 24 tons in the previous year. Over seven million oranges and 56,000 pineapples were consigned to the mainland. The export of locally prepared coil tobacco increased greatly during the period as did the export of mangrove bark.

SECTION II.

WORK OF THE DEPARTMENT OF AGRICULTURE.

GENERAL.

The Director continued to function as Food Controller; an Agricultural Officer was employed as Assistant Food Controller in Pemba and the Manager of Government Plantations was Assistant Food Controller in Zanzibar. The Government Chemist was seconded to the Secretariat. As a result certain departmental activities have been restricted.

The school gardens in Zanzibar continued to be supervised by an Arab Assistant Agricultural Officer of the Education Department while those in Pemba were in charge of the District Agricultural Officer. The programmes at school gardens have been reorientated in the direction of producing staple foods and vegetables for consumption by the pupils. On the whole the gardens were maintained adequately, but the educational effect is of doubtful value, since the school calendar is based on the Mohammedan year which bears no relation to the seasonal year, with the result that schools may be closed at a time when seasonal operations should be proceeding actively.

Three pupils were recruited for training on the Experiment Station of the Department of Agriculture and teaching in Agriculture Science was conducted by the Assistant Agricultural Officer at the Rural Middle School, Dole, which adjoins the Experiment Station. As in the past year visits were made to the Experiment Station by boys of the senior classes and special demonstrations were given.

The production of rubber from vines of Landolphia spp. which occur in limited areas of Pemba was encouraged, but despite an increase in price, guaranteed from December, 1942, the collection of rubber diminished and finally ceased in September. The counter claims of food growing and clove harvesting were the factors principally responsible for the decline.

EXPERIMENT STATIONS.

Cloves.—The programme of experimental work on the clove tree was continued. A trial, under nursery conditions, in which clove plants are being raised from seeds and the nursery beds treated with organic and various mixtures of inorganic fertilisers was carried on, the response to the manurial treatments being measured by weighing the aerial parts of the seedlings dried to constant weight. The trial is designed to extend over a period of four years, seedlings being thinned out annually to provide material for weighing and to allow the remaining plants to develop satisfactorily. The second thinnings from the beds treated with inorganic fertilisers were weighed during the period, as were the first thinnings from the beds treated with organic fertilisers. There were no significant differences between dry weights of seedlings from any of the treatments.

In 1935, on land which had borne cloves for over a century and where "sudden death" was present, a new stand of clove seedlings was planted with nurse crops of cassava and bananas. After two years in the field the clove seedlings were treated with artificial manures in the form of a factorial trial of the three common fertilisers, Sulphate of Ammonia, Sulphate of Potash and Superphosphate. These manures were applied at the rate of 1 lb. per tree of the nitrogenous and potassic fertilisers and 3 lbs. per tree of Superphosphate. The dressings were doubled in 1941 and subsequent years.

From the first harvest of 1938-39 significant responses have been obtained for various treatments each year but yields were not large enough, until the Mwaka crop of this year, for any financial profit to accrue from the use of any fertiliser. It is now possible to state definitely that a dressing of 2 lbs. of Sulphate of Ammonia per tree on saplings which have been eight years in the field is capable of causing a response of about 1.5 lbs. of dry cloves per tree. At 70 trees per acre and at 30 cents net profit per tree this is equivalent to a return of shillings 21.00 per acre at a cost of about shillings 19.00 for the manure. With fertilisers at a lower cost than at present the profit would be greater and it is expected that the effects of continued manuring will become more pronounced as the trees mature.

When the various manures are considered separately and in combination the following mean responses to the individual fertilisers and the effect of the interactions between them are found. The figures represent the aggregates of all the harvests to-date.

(a) Nitrogen has caused a mean increase of 579 lbs. of green cloves per acre to-date.

(b) Potash has caused a mean increase of 286 lbs. of green cloves per acre to-date.

(c) Phosphate has caused no significant differences in yield so far.

(d) The interaction between Nitrogen and Phosphate has caused a decrease of some 135 lbs. of green cloves per acre to-date .

(e) The interaction between Nitrogen and Potash sometimes caused decreases in yields in the early years but the last crop showed a fairly large increase in yield which exceeded the previous losses. The importance of this interaction is considerable, as both Nitrogen and Potash increase yield when applied separately and it is hoped that future crops will indicate positive responses to the interaction, as occurred this year.

(f) The interaction between Phosphate and Potash has caused little difference to yield so far.

(g) The triple interaction between the three fertilisers has frequently caused significant losses in yield. These in the aggregate now amount to 139 lbs. of green cloves per acre.

For some years the view has been held, in this Department, that stem girth afforded a useful criterion of vigour in young clove trees. During the year a paper by Mr. G. E. Tidbury, Agricultural Officer, entitled "Stem Girth as a Criterion in Field Trials with Young Clove Trees" was puplished in the *Empire Journal of Experimental Agriculture*. Amongst the conclusions it was shown that a positive correlation exists between stem girth and yield in the case of mature clove trees. The results of the experiment described above provide evidence that the conclusions reached in the case of mature cloves apply to younger age classes of clove trees, in that manurial treatments have produced effects on the stem girth of the trees which are very similar to the effects of the same treatments on the aggregate yield of cloves.

Nitrogen (N) and Potash (K) singly and the interaction between them when applied together ($N \times K$) increase both girth and yield, the individual effects of Nitrogen or Potash on yield being significant. The effects of the interactions between Nitrogen (N) and Phosphate (P) when applied together ($N \times P$) and of Nitrogen, Phosphate and Potash ($N \times P \times K$) caused decreases in stem girth and yield, the former only being significant. The effects of the manurial treatments in terms of green cloves per acre and of the girth increase or decrease per tree for each treatment is shown by means of a histogram on page 6.

In any consideration of the efficacy of manurial treatment of the clove tree the cost of the fertiliser must play a prominent part and consideration has been given to the possibility of utilising copra meal, the residual product of the coconut oil industry. Entirely satisfactory results are not yet to hand, but results of some interest have been obtained from two trials which suggest that copra meal may well take the place of Sulphate of Ammonia and combine further advantages due to its content of Potash and its organic nature.

Certain mature trees were treated in 1942 and 1943 with dressings of artificial fertilisers and others with copra meal applied in trenches near the bases of the trees. The experiment was laid down as a simple observational trial on a limited number of trees and, unfortunately, was not set out in the accepted modern fashion.

The treatments were not randomised and there are no guard rows. Statistical examination of the results is, therefore, not strictly valid and the control trees almost certainly absorbed some of the manures. However, it was decided to pick the 1943 "mwaka" crop and carry out a rough analysis of the results. These indicated that the trees treated with copra meal bore a heavier crop of cloves than the control trees ($P = 0.05$).

RESULTS :—

Treatment	No. of Trees	Average Yield lbs. green cloves	
Control	10	83.48	$+25.32$ $-$
Copra meal	8	160.57	$+18.74$ $-$
Artificials	8	125.87	$+22.55$ $-$

In another trial randomised rows of saplings, planted in 1937, were treated with copra meal applied at 25 lbs., 12 lbs. and nil lbs. per tree in 1942 and 1943.

The "mwaka" crop 1943 gave the following results :—

Treatment	Average Yield lbs. green cloves per tree
Control—no manure ...	1.26
Copra meal, 12 lbs. per tree ...	1.29
Copra meal, 25 lbs. per tree ...	1.64

These differences are not statistically significant and those of the previous rough trial must be taken with great reserve; nevertheless in view of the very clear results with artificials it is felt that there is reason to hope that later, as saplings mature and produce larger crops, significant results may also be obtained from the use of copra meal.

Further to the subject of the manuring of cloves it is of interest to record that in other experiments, in which seedlings of one and two years have been treated with various manurial dressings, no positive results have been obtained. The present position is, therefore, that we have no evidence that manuring clove seedlings with artificial fertilisers is of any value before the third year in the field.

Coconuts.—The results of an experiment involving the manuring of coconuts with artificial fertilisers, on which a cultivation trial had been superimposed, were analysed and it was found that no significant differences in the yield of nuts had resulted from the different treatments. The experiment was wound up and a modified trial laid down on the same area.

The block of 600 palms which had been individually tree-recorded for the past 10 years has shown a steady decline in yield, the area being infested with Imperata grass and, apparently, defective in drainage. A simple trial in which half the block is being used to grow annual crops on ridges has been started. The cultivation of food crops will, it is believed, eradicate the Imperata grass and the extra cultivation given to the interplanted food crops may be beneficial to the palms.

Pineapples.—The spacing and manurial experiments to which reference was made in the annual report of 1942 were continued into their fourth year, the salient points of the conclusions being reproduced below.

The nitrogen treated plots, which had a larger number of ratooning plants than those receiving other treatments, suffered a significant reduction in yield in the third season but this was overcome during the fourth harvest when the plots treated with nitrogen once more showed significant responses in respect of number of fruits, mean weight of fruit and total weight of fruit per acre, as they had done in the first two seasons of the trial. A possible reason for the reduction in the effect of nitrogen in the third year and a resumption of its significant effects during the fourth harvest may lie in the fact that in the third year the ratooning suckers were, to a great extent, recumbent and relied on adventitious roots for their attachment to the soil. At the end of the third crop they were firmly reset in the ground and the old root bases removed. A significant response was obtained from Potash in the fourth season and from the interaction between Nitrogen and Potash.

The results of this experiment are tabulated below:—

Treatment	No. of fruits per acre	Total weight of fruit per acre (Tons)	Average weight of fruit (lbs.)
N.	735××	1.942××	0.718××
P.	69	−0.017	−0.128
Interaction N×P	−146	−0.303	−0.056
K.	268×	1.393××	0.925××
Interaction N×K	349××	1.180××	0.487××
Interaction P×K	61	0.270	0.182
Interaction N×P×K	−110	−0.144	−0.006
	+124.3	+0.307	+0.145
S.E.	−	−	−

× = Significant P=0.05; ×× = Significast P=0.01.

As regards the spacing experiment the fourth harvest showed that the general deterioration in production, which was observed last year, was continued and worsened. Practically no fruits suitable for slice canning were produced and although the superiority of the close espacment in terms of number and total weight of fruit per acre was evident the compensating effect of large average size in the wide spacing was not seen. This experiment is now completed, the the results of the four years trial being well in favour of close espacement although it was found that the actual close espacement used (12,906 plants per acre) was rather too close for ease of working when cultivating, applying manures and harvesting.

The results of the findings of these experiments on pineapple manuring and spacing were submitted by Mr. G. E. Tidbury, Agricultural Officer, for publication in the *East African Agricultural Journal* under the title of "Pineapple Experiment in Zanzibar, Part II."

A uniformity trial with pineapples was harvested and the records analysed, the analyses taking the form of calculating the standard deviations for plots of different sizes in terms of the four criteria (1) total weight of fruit per unit area (2) total number of fruits per unit area (3) number of fruits over 4 lbs. weight per unit area and (4) average weight per fruit. The data will be of value in the design of future trials with pineapples.

As a result of the findings of the spacing trial which indicated that the third ratoon crop in the experiment was hardly worth picking, a trial has been put down to determine the optimum number of ratoon crops which should be taken from a field of pineapples prior to replanting the whole field.

A joint paper prepared by Mr. A. K. Briant and Mr. G. E. Tidbury, Agricultural Officers, was submitted for publication under the title of "Numerical Estimation of Pineapples suitable for Canning." The gist of the investigation lay in the construction of a graph which indicates the approximate percentage of a sample of pineapples over a certain critical weight when the total weight and number of fruit in the sample is known. The value of this graph would be twofold; firstly for a factory purchasing large numbers of fruit for slice canning, and secondly in assessing the commercial value of experimental field treatments.

Oil Palms.—The block planted out in 1939 was maintained and expression of oil in the hand press continued. The bulk of the crop is harvested from February to May (67%). The yield of the palms is increasing as is shown by the figures below:—

	1942	1943
Average weight of bunches in lbs.	15.8	21.9
Average weight of fruit per bunch in lbs.	10.5	16.7
Average weight of oil per bunch in lbs.	1.01	1.24

Citrus.—Of the budding which was done on sour orange stock this year the "take" was good, but after the scion had attained a length of about one foot a considerable amount of dying-back was experienced. The reason is not yet known but the condition has not been observed hitherto when sour orange stock was used.

Miscellaneous.—Areas of kapok and of derris were maintained and a number of cacao trees were individually recorded throughout the period, the highest yielder giving 16 lbs. of dry cacao.

Rice.—The varieties carried forward from last year's trials were tested and, as no significant differences were observed between the yields, all varieties are being carried forward to a further trial in 1944. A cultural trial from which information is sought regarding the best method of treating land between successive rice crops was carried through its first year, two of the treatments, namely ridging the land and growing a leguminous cover crop, approaching statistical significance. The trial is being continued.

Cassava.—This crop is one which is of considerable importance to the peasant cultivator at all times and has become the principal staple food crop of the majority of the people in the course of the war. It combines the advantages of high yield with a marked capacity for withstanding drought periods, and it can be left in the ground for variable and lengthy periods, harvesting of roots taking place according to the needs of the cultivator.

The course which is taken annually in the production and selection of new cassava varieties was followed again in 1943, this part of the routine programme being:—

(1) The planting of several thousand seeds of cassava for the subsequent selection of seedlings resistant to mosaic diseases.

(2) The establishment of cuttings from the selected survivors of the previous year's seedlings to test the plants, reproduced vegetatively, for disease-resistance and flavour.

(3) The multiplication of vegetatively reproduced cuttings which have passed through disease resistance and flavour tests in the previous year so as to provide enough material for a variety trial .

(4) The laying down of an annual variety trial containing the station's best yielder (Msitu) as control.

The year's variety trial produced a challenge to the variety Msitu, the results being summarised below:—

Selection	Yield in Tons per acre.
Msitu	11.4
K.11	11.9
K.48	7.1
K.49	7.9
K.50	11.0
K.73	8.6
K.75	7.0
K.76	9.0
K.77	8.9
K.92	8.2

Difference required for 5% significance=2.4.

The varieties K.11 and Msitu have been carried over into the next yield trial together with six more selections from the multiplication stage referred to above. Other manurial and cultural trials were carried out.

Miscellaneous.—Yield trials with yams were carried out and seed supplies of maize, sorghums and various pulses maintained for issue to the public.

VETERINARY.

Live-stock Disease.—Outbreaks of anthrax occurred amongst cattle and goats in the area where similar cases had occurred some three years previously. Quarantine measures were imposed and 503 cattle were treated with anthrax spore vaccine. The outbreak was localised successfully and suppressed.

Cases of trypanosomiasis occurred in various parts of Zanzibar District amongst cattle, donkeys and dogs. In the course of the year mass examinations of local cattle in several Shehias of Magharib Mudiria were undertaken. The extent of infection in the samples of indigenous cattle examined was some 2%. In a herd of dairy cattle adjoining Zanzibar town the rate of infection was found to be some 25%. In this case the animals were principally grades. Treatment with tartar emetic was not satisfactory, relapses frequently following upon apparent recoveries. Some reinfection may have occurred.

An acute outbreak of severe canine distemper took a heavy toll of the canine population in Zanzibar Disrtict. The disease subsided after it had run its course.

In the Abattoir tuberculosis was detected in the carcases of imported slaughter stock but was not found in local stock. In a dairy 192 head of cattle were tested for tuberculosis by the double intradermal test. Of the 17 animals which gave positive reactions some were slaughtered without detection of tuberculosis in the carcases.

Outbreaks of contagious pleuro-pneumonia of goats were recorded. By means of quarantine and slaughtering the outbreaks were kept within the quarantine area.

Cases of East Coast Fever which is endemic in the Protectorate occurred.

General.—The principal source of imported slaughter stock, both cattle and goats, continued to be Tanganyika Territory, although a portion of the local supply was derived from Somalia. With the extension of food growing for local consumption and the shortage of late rains grazing was scarce. The effects of this scarcity were accentuated by the shortage of imported maize bran and the high price of local cassava, but local dairyman met the situation, to some extent, by feeding sweet potatoes and rice bran obtained by screening hand pounded rice residues.

Stock Farm.—The herd of local Zebu type cattle was increased during the period, a permanent cowshed erected and the grazing areas extended. The employment of a Makerere trained Assistant Veterinary Officer has enabled a greater measure of supervision to be exercised.

The policy of discarding heifers from the foundation herd after a poor first lactation has been discontinued. All heifers are now hand milked entirely and the calves hand fed. If this course proves successful no change is made, but if in the first lactation the animal gives little milk, although apparently capable of doing better, the second calf is allowed to suck the dam, as in native practice, and milk surplus to the calf's requirements removed by hand. In several cases already seen an animal which would have been rejected on the first lactation has fed her second calf well and yielded a fair quantity of surplus milk. Hand milked heifers have given extremely variable yields ranging from 200 gallons to practically nothing.

Owing to the scarcity of grazing, milking thrice da was discontinued in favour of twice daily, in order t the stock could be taken further afield to feed. T results have been satisfactory.

A trial was commenced in which young anim lately weaned were given a daily supplementary rat of 1½ lbs. cassava plus ½ lb. of simsim meal. T results indicate that after five months the calves r ceiving supplementary feeding showed an averag live weight increase of 12.3% over the control Each group consisted of six animals, the initial averag weights of the groups being the same.

CHEMICAL LABORATORY.

The Government Chemist was seconded to the Secretariat throughout the year, but continued to supervise the work of the Laboratory and undertook examinations of an unusual nature or special importance. The rountine work was carried out very ably by the Laboratory Assistant.

The number of samples was 1,779. Of these 1,747 were from Government Departments (Agriculture 1,678, Health 21, Police 36, Customs 3, others 9), 7 from the Clove Growers Association and 25 from private firms.

Clove oil exports involved 49 samples, representing approximately 97 tons. The average eugenol content of clove stem oil was 93.2 per cent.

Samples in connexion with coconut oil exports numbered 239.

Soap and mangrove bark appeared for the first time amongst export products calling for analysis.

Regular examinations of the Zanzibar Public Water Supply gave uniform and very satisfactory results.

The watering of milk supplies was more prevalent than usual. Eleven samples were more than 20% deficient in solid-not-fat (standard 8.5%), the worst being 59.5% deficient.

The Laboratory made up and issued to the District Administration 9,900 sodium arsenite baits for poisoning wild pig.

SECTION III.

LEGISLATION.

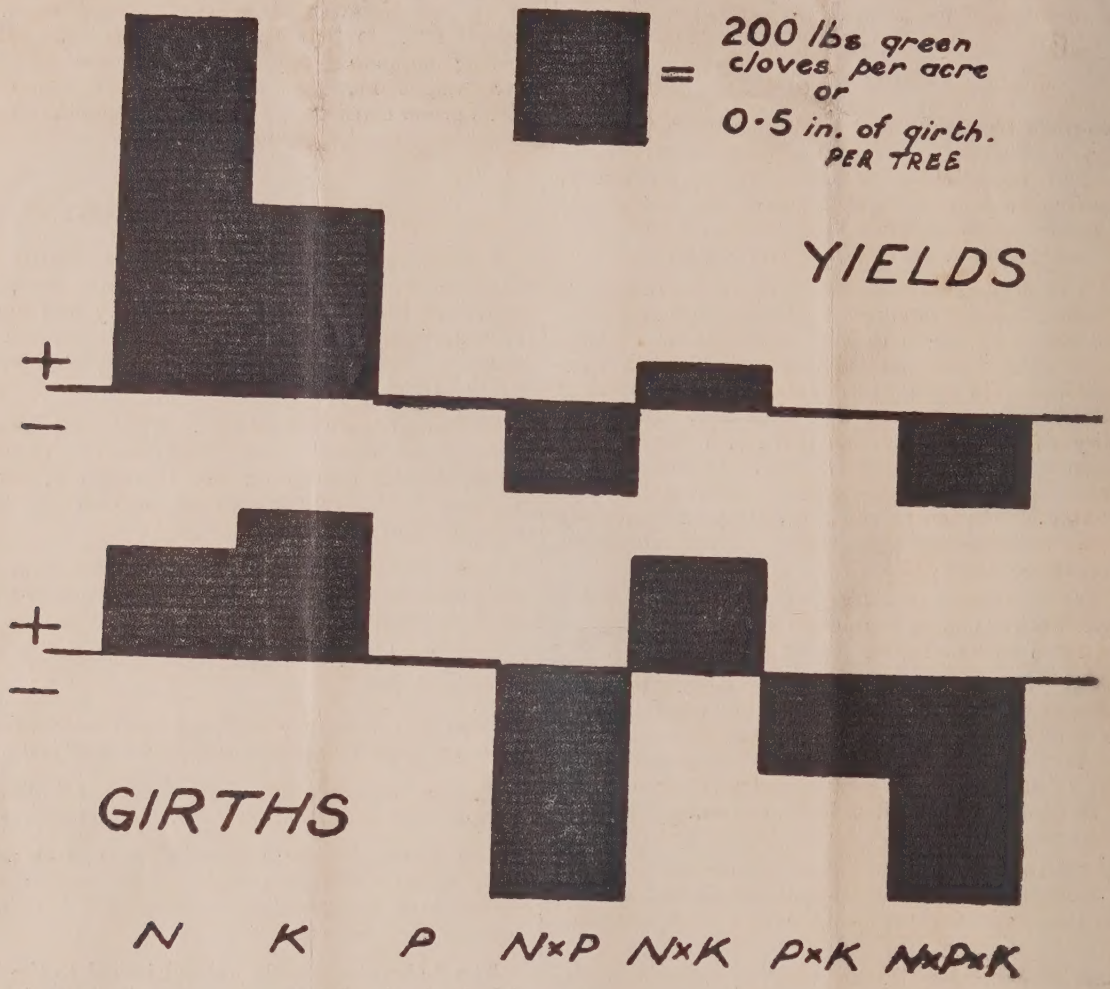
With the exception of a number of Regulations under the Emergency Powers (Defence) Acts, 1939 and 1940, no major legislation affecting agricultural industries was enacted during the year. A few minor amendments to Rules under the Agricultural Produce Export Decree and one to Rules under the Diseases of Animals Decree were made.

The Defence (Land Requisition and Personal Service) Regulations 1943, published as Government Notice No. 201 brought earlier Regulations up to date in a compact form, and provided the authority under which, by Order, land requisitioning and the issue of orders to cultivators took place. A number of cultivation and planting orders made under these Regulations was issued during the period.

ACKNOWLEDGMENTS.

I have pleasure in acknowledging the wholehearted assistance given to me by the staff of the Department of Agriculture during the year.

J. C. MUIR,
Director of Agriculture.



Histogram showing the effects of manurial treatments in terms of green cloves per acre and of the girth increase or decrease per tree.

PRINTED BY THE GOVERNMENT PRINTER, ZANZIBAR.